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EXAMINER	
CHAWLA, JYOTI	
ART UNIT	PAPER NUMBER
1781	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

victor@wwiplaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/691,480	KEELER, JOHN	
	Examiner	Art Unit	
	JYOTI CHAWLA	1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-5,7,10,12,13,15 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-5,7,10,12,13,15 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

In view of applicant's request to reopen prosecution of 12/5/2011, which was in response to Examiner's Answer of 10/31/2011, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below. No amendments have been filed. Claims 3-5, 7, 10, 12-13, 15 and 18 remain pending in the application.

To avoid abandonment of the application, applicant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then applicant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

/D. Lawrence Tarazano/

Supervisory Patent Examiner, Art Unit 1781

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Rejection (A)

Claims 3-5, 7, 10, 12-13, 15, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerter (US 5268189) in view of the combination of Peterson et al [J of Food Protection 8/1997, 60 (8), 928-934 (Abstract)], Byrd (US 2546428), Air Liquide Canada (RD 235012 Abstract only) and Sugisawa et al (US 4840805).

Regarding claims 10 and 18, Doerter teaches a process of treating and packaging fresh or cooked shellfish meat, such as crab, shrimp or lobster (Column 1, line 11 and lines 52-65) and the packaged product made, by providing a packaging container like a pouch (Column 2, lines 38-39); placing a volume of crabmeat into said packaging vessel (Column 2, lines 35-36). Since the surrounding air (ambient air) will enter the package when the package is open, Doerter teaches of placing a volume of air (ambient air) in the packaging container before sealing of the container after packing (Column 3, lines 11-16) and subsequently pasteurizing the sealed container (Column 3, lines 17-25) as instantly claimed. Doerter also teaches of effectively heating the packaged product to kill microorganisms including Listeria monocytogenes (Column 3, lines 17-20). Killing the microorganisms, such as Listeria (anaerobic bacteria), by heat treatment methods taught by Doerter will prevent the growth of such anaerobic bacteria

in the package, as instantly claimed. Thus packaging of shellfish meat including crab in flexible pouches was known at the time of the invention as taught by Doerter. Also heat treatment of the packaged meat by pasteurization or sterilization in order to kill the naturally occurring bacteria (including anaerobic bacteria) was also known in the art of packaging shellfish meat at the time of the invention, as instantly recited in claims 10, and 18.

Regarding the effectiveness of pasteurization as a method of preservation, Peterson et al., hereinafter Peterson, teaches pasteurization of crabmeat that is packed in oxygen-impermeable flexible pouches (Abstract). Peterson also teaches that pasteurization process extends the shelf life of packaged crabmeat by inactivating spores of clostridium botulinum and listeria monocytogenes which are anaerobic bacteria. Peterson further teaches that sealed crabmeat in a pouch should be kept refrigerated in order to maintain the safety of the packaged crab product (Abstract). Thus, Peterson also provides evidence that packaging of crabmeat in flexible pouches and pasteurizing the packaged crabmeat was known at the time of the invention. Peterson further teaches it was known in the art at the time of the invention that pasteurization is an effective method to inactivate the spores of anaerobic bacteria, such as, botulinum.

Byrd teaches method of keeping shellfish and crustacean meat, such as crabmeat in a fresh condition, without any marked changes in flavor, appearance odor or texture (Column 1, lines 10-19) as is also the intent of the applicant. The reference teaches of packing the crabmeat in containers, which are hermetically sealed and vacuumized (Column 2, lines 39-43). The reference also teaches of reducing the amount of undesirable air space in the package either by vacuuming or by packing tightly (Column 2, lines 44-49). Byrd also teaches of heat-treating the packaged sealed containers in order to raise the internal temperature of mass in the cans reaches between 171 $^{\circ}$F to 210 $^{\circ}$F (Pasteurization temperature range) (Column 3, lines 5-11). The containers of crabmeat as taught by Byrd are cooled and kept refrigerated. Thus,

the desirability of reduced volume of air (ambient air) in packaged crabmeat was known at the time of the invention as taught by Byrd.

Doerter teaches of effectively heating the packaged product to kill microorganisms including Listeria monocytogenes (Column 3, lines 17-20). Air Liquide Canada, hereinafter Canada, teaches of packaging fish and sea products (i.e., crabs, lobster etc.) under gaseous atmospheres rich in carbon dioxide (60-80% by volume) but containing an amount of oxygen such that the development of strict anaerobic flora is avoided. Since anaerobic bacteria grow in the absence of oxygen, therefore, it is the proportion of oxygen in the package that affects the growth of anaerobic bacteria, i.e., Canada teaches that it was known at the time of the invention that anaerobic bacteria, such as, clostridium botulinum (i.e., the bacteria that grow in the absence of free oxygen), do not grow in an atmosphere with 20-40% oxygen by volume because the oxygen level prevents their growth. The composition of atmospheric air as being about 21% oxygen was also known at the time of the invention. The oxygen level of atmospheric air or ambient air falls in 20-40% range, thus it would have been obvious to one of ordinary skill at the time of the invention that packaging in an atmosphere of ambient air will similarly have enough oxygen to be effective in preventing the growth of anaerobic bacteria, as recited in the rejected claims 10, and 18.

Specifically regarding controlling the volume of ambient air in the package as recited in claims 5, 7, 10, 15, and 18, Doerter and Byrd references teach reducing (i.e., controlling) the air volume from the package of crabmeat. Doerter teaches of reducing (i.e., controlling) air volume by adding a mixture of carrageenan and water before sealing the package, which would create a partial vacuum in the package of crabmeat as recited in claim 5. Byrd teaches of reducing (i.e., controlling) the air volume in the package of crabmeat either by vacuum processing or by tightly packing the crabmeat in the package (Column 2, lines 44-49). Canada teaches that pasteurized crabmeat in the presence of about 20-40% oxygen in the atmosphere of the package, i.e., controlling the volume of air, as instantly claimed. Thus Doerter, Byrd and Canada, all teach controlling the volume of air in the package, as recited in the rejected claims but they

are silent as to the specific volume of ambient air in the package to obtain the ambient air to crabmeat ratio within the package to about 13-20% (as recited in claims 10, 18) or about 20% (as recited in claims7, and 15). Sugisawa et al, hereinafter Sugisawa, teaches packaging the cooked fish product (seafood) under vacuum (Column 3, lines 7-8), where the volume of air in the package is preferably kept less than 15% of the volume of the entire package, to improve the effect of sterilization and to prevent fish meat from breaking (Column 3, lines 3-34 and Example 1). Since there is 15% air volume in the package, therefore, the vacuum as taught by Sugisawa is a partial vacuum as recited in claim 5. Thus, Sugisawa teaches of use of partial vacuum in packaging as instantly claimed. Sugisawa teaches that if the total volume of the package is 100, the air volume would be 15, i.e., the seafood (fish) volume taught by Sugisawa would be 85 and the resulting ratio of air to fish is 18% (about 20%) by volume, which would fall in the range recited by the applicant in claims 7, 10, 15, and 18.

In summary, the prior art of record, recognized the problem of packaging seafood and crabmeat while preventing anaerobic bacterial growth in packaged fish, shellfish and crabmeat. Prior art also disclosed that in the art of packaging meat or fish or shellfish and especially crabmeat products the following facts/steps were known at the time of the invention:

- Packaging of fish, crabmeat or other seafood in flexible packages was known in the art at the time of the invention (Peterson and Canada).
- Reducing the amount of air from the package before sealing and heat treating (i.e., sterilizing or pasteurizing) the packaged food for longer and safe shelf life of the food (Doerter, Byrd, Canada and Sugisawa).
- Placing a volume of crabmeat or sea product or fish in the vessel was also known in the art (Doerter and Canada).
- Sealing the package after adjusting the volume of air was also known in the art (Doerter and Canada).

- Pasteurizing meat as a method of preservation of seafood was known at the time of the invention (Doerter, Peterson and Byrd).
- Controlling and adjusting the relative proportion of oxygen to 20-40% by volume of the total gas volume can successfully avoid anaerobic bacterial growth in the packaged seafood (Canada). If 20-40% oxygen by volume can avoid anaerobic bacterial growth then presence of atmospheric air or ambient air (which is about 21% oxygen by volume) in the package will similarly be adequate or able to prevent or obstruct anaerobic bacterial growth (based on the teachings of Canada).
- Controlling or adjusting the air volume in the packaged meat to about 15% or less of the total package volume (or air to meat ratio of about 20% or less by volume), enhances the effect of heat treatment (i.e., sterilization/ pasteurization etc) or preserves the cooked seafood product better (Sugisawa, Column 3, lines 3-34 and Example 1).

Therefore, adjusting or controlling the volume of air in the package prior to sealing and pasteurizing was known in the art at the time of the invention (Doerter, Byrd, Canada). Adjusting the air to meat ratio in the recited range of 13-20% by partially vacuuming the pack, was also known in the art of packaged food (Sugisawa). It was also known at the time of the invention that 20-40% by volume of oxygen (based on the total gas volume of the package) is sufficient to prevent anaerobic bacterial growth in packaged seafood (Canada). Since atmospheric air is about 21% oxygen (which falls in the range of 20-40%), therefore, the presence of atmospheric or ambient air will similarly be adequate or sufficient in preventing anaerobic bacterial growth as recited in the rejected claims (based on teachings of Canada) and it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Doerter in view of Canada and Sugisawa and package crabmeat such that the package includes air in a suitable amount in order to prevent anaerobic bacterial growth, such as air in an amount of 18% (about 20%) of air by volume, in proportion to the packaged shellfish (crabmeat)

product, at least in order to enhance the effect of heat treatment. One would have also been motivated to add air to the packaged food product in order to make the product with fewer additives and still provide some cushion (air) to prevent deterioration of crabmeat due to breaking. One would have been further motivated to package with air to food ratio of about 20% to have a packaged fish or shellfish product where anaerobic bacteriological damage is prevented during processing and storage.

Regarding claims 3, 4, 12, and 13, Doerter teaches that the pouch used for packaging shellfish could be made of a high density polyethylene resin (Column 2, lines 42-43), however the reference is silent as to the material of the pouch being a multilayered film. Regarding the nature of the packaging material Sugisawa, teaches bags (containers), for packing cooked fish products, that are made from laminates of materials, such as nylon, polyethylene terapthalate (PET), polypropylene or cast polypropylene (CPP), aluminum foil etc., (Column 2, lines 61-68 and Column 3, line 65). Therefore, Sugisawa, teaches a multilayered (laminated) bag or container for packaging cooked fish etc., comprising PET, nylon, CPP and aluminum as recited by the applicant in claims 3, 4, 12, and 13.

Flexible packages made of high-density polyethylene that can withstand heat treatments have been known in the art at the time of the invention, for packaging meats including shellfish and crabmeat (Doerter). Laminated multilayered flexible packages comprising of PET, nylon, aluminum (as an oxygen barrier) and cast polypropylene (CPP) etc., were also known at the time of the invention, for their application in high retort food packaging (Sugisawa). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the flexible package taught by Doerter and use a multilayered film package comprising of layers of thermoplastic resin like PET, with nylon, aluminum and CPP to pack the shellfish (crabmeat) package, as taught by Sugisawa, to ensure a strong, heat stable bag or pouch with better elasticity and tear resistance. One would have been further motivated to use a food package made with multilayered film as taught by Sugisawa for cooked food such as

crabmeat to ensure that the seafood remain in a better condition after pasteurization (i.e., heat stabilization), transportation, storage etc., as compared to the seafood that is packaged in traditional packages.

Therefore, claims 3-5, 7, 10, 12-13, 15 and 18 are rejected as being unpatentable over Doerter in view of the combination of Peterson Byrd, Air Liquide Canada and Sugisawa.

Rejection (B)

Claims 3-5, 7, 10, 12-13, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueyama et al. (US 2002/0061412) in view of the combination of Peterson et al (J of Food Protection 8/1997, 60 (8), 928-934 (Abstract), Air Liquide Canada (RD 235012 Abstract only) and Sugisawa et al (US 4840805).

Regarding claims 3, 5, 7, 10, 12, 15 and 18, Ueyama et al, hereinafter Ueyama, teaches a heat shrinkable multilayer film (Page 1, paragraphs [0001] and [0002]) and packages made using the film for packaging for meats such as crabs, fish and other marine products (Page 5, paragraph [0066]) and the product packaged using the multilayer film (Page 7, paragraph [0099] and other examples). Ueyama also teaches packaging the desired product in a vessel, such as a bag or pouch (Page 1, paragraph [0002]) and placing a volume of the desired product in the packaging vessel and forming a casing; sealing the bag or package (page 7, paragraphs [0094] and [0099]); and heat treating or sterilizing said sealed packaging vessel (Page 3, paragraph [0039]) as instantly claimed.

Ueyama teaches heat treatment of the packaged food and also as part of making the packaged food, however Ueyama is silent about pasteurization as the method employed for heat treatment, however, pasteurization was well known as a method of heat treatment for packaged food at the time of the invention. Peterson teaches pasteurization of crabmeat that is packed in oxygen-impermeable flexible pouches

(Abstract). Regarding the effectiveness of pasteurization as the heat treatment for preservation of packaged meat, Peterson also teaches that pasteurization process extends the shelf life of packaged crabmeat by inactivating spores of clostridium botulinum and listeria monocytogenes (which are anaerobic bacteria). Peterson further teaches that sealed crabmeat in a pouch should be kept refrigerated in order to maintain the safety of the packaged crab product (Abstract). Further sterilization and pasteurization were both well-known as methods of heat treatment of foods used to control the microbial contamination in foods, at the time the invention was made. Both methods have their advantages and are employed based on type of food, storage time and storage conditions desired. The heat treatment of foods during pasteurization is less intense as compared to heat treatment during sterilization, thus the pasteurization method is more suitable where exposure to intense heat for a prolonged period would result in undesirable, color, texture and flavor changes. Since pasteurization as a method of preservation of crabmeat was known at the time of the invention (Peterson), therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ueyama and perform the desired heat treatment (either pasteurization or sterilization) for the crabmeat depending on desired length of storage, available storage conditions, available type of package and other available processing conditions.

Ueyama is also silent regarding the atmosphere desired in the package for the prevention of growth of anaerobic bacteria as instantly claimed, however, Air Liquide Canada, hereinafter Canada, reference teaches of packaging fish and sea products (i.e., crabs, lobster etc.) under gaseous atmospheres with 60-80% by volume carbon dioxide and containing 20-40% by volume of oxygen, such that the development of strict anaerobic flora is avoided as instantly claimed. Since anaerobic bacteria grow in the absence of oxygen, therefore, it is the proportion of oxygen in the package that affects the growth of anaerobic bacteria. Thus Canada teaches that pasteurized crabmeat in the presence of about 20-40% oxygen by volume of the total gas volume of the package will be sufficient to avoid anaerobic bacterial growth. If 20-40% oxygen by volume can avoid anaerobic bacterial growth then atmospheric air or ambient air which is about

21% oxygen by volume, present in the package will be adequate or able to prevent or obstruct growth of anaerobic bacterial species, such as, clostridium botulinum and listeria monocytogenes etc. (based on the teachings of Canada), as instantly claimed.

Regarding the specific volume of the ambient air in the crabmeat package to about 13-20% (as recited in claims 10 and 18) or about 20% (as recited in claims 7, 15 and 19), Ueyama and Peterson are silent. However, Sugisawa teaches packaging the cooked fish product (seafood) under vacuum (Column 3, lines 7-8), where the volume of air in the package is preferably kept less than 15% of the volume of the entire package, to improve the effect of sterilization and to prevent fish meat from breaking (Column 3, lines 3-34 and Example 1). Since there is 15% air in the package, therefore, the vacuum as taught by Sugisawa is a partial vacuum as recited in claim 5. Thus, Sugisawa teaches of use of partial vacuum in packaging as instantly claimed. Sugisawa also teaches that if the total volume of the package is 100, the air volume would be 15, i.e., the seafood (fish) volume taught by Sugisawa would be 85 and the resulting ratio of air to packaged food is 18% (about 20%) by volume, which falls in the range recited by the applicant in claims 5, 7, 10, 15, and 18, absent any clear and convincing arguments and evidence to the contrary.

In summary, the prior art of record recognized the problem of packaging seafood and crabmeat while preventing anaerobic bacterial growth. Prior art also disclosed that in the art of packaging meat or fish or shellfish and especially crabmeat products the following facts/steps were known at the time of the invention:

- Packaging of fish, crabmeat or other seafood in flexible packages was known in the art at the time of the invention (Ueyama, Peterson and Canada).
- Controlling the amount of air from the package before sealing and heat treating (i.e., sterilizing or pasteurizing) the packaged food for longer and safe shelf life of the food (Ueyama, Peterson, Canada and Sugisawa).

- Placing a volume of crabmeat or fish or sea product or fish in the vessel was also known in the art (Canada and Sugisawa).
- Sealing the package after adjusting the volume of air was also known in the art (Canada and Sugisawa).
- Pasteurizing meat product as a method of heat treatment for preservation of seafood was known at the time of the invention (Peterson and Canada).
- Controlling and adjusting the relative proportion of oxygen to 20-40% by volume of the total gas volume can successfully avoid anaerobic bacterial growth in the packaged seafood (Canada). If 20-40% oxygen by volume can avoid anaerobic bacterial growth then presence of atmospheric air or ambient air (which is about 21% oxygen by volume) in the package will similarly be adequate or able to prevent or obstruct anaerobic bacterial growth (based on the teachings of Canada).
- Controlling or adjusting the air volume in the packaged meat to about 15% or less of the total package volume (or air to meat ratio of about 20% or less by volume), enhances the effect of heat treatment (i.e., sterilization/ pasteurization etc) or preserves the cooked seafood product better (Sugisawa, Column 3, lines 3-34 and Example 1). Thus adjusting the volume of air (oxygen) inside a package improves the storage properties of packaged shellfish as taught by Canada and Sugisawa.

Therefore, based on the above discussion, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Ueyama in view of Canada and Sugisawa and package crabmeat such that the package includes air in a suitable amount at least for the purpose of preventing anaerobic bacterial growth, such as air in an amount of 18% (about 20%) of air by volume, in proportion to the packaged shellfish (crabmeat) product as taught by Sugisawa, at least in order to enhance the effect of heat treatment. One would be motivated to control the air volume in the packaged and heat treated (i.e., pasteurized or sterilized) meat in order to enhance the

storage life of the packaged product by preventing microbial deterioration of packaged food by anaerobic bacterial growth (i.e., adequate volume of air in the package prevents anaerobic bacterial growth). Furthermore, one of ordinary skill in the art would have been motivated to package with air to food ratio of about 20% (Sugisawa) to have a packaged fish or shellfish product with less additives and an air cushion, which would help in reducing the physical damage during processing, transportation and storage, which is also the intent of the applicant.

Regarding claims 4, and 13, the multilayered packaging film taught by Ueyama comprises at least one layer of polyethylene teraphthalate (PET), hereinafter PET, (Page2, paragraph [0024] and page 3, paragraph [0027]); at least one layer of nylon (Page 3, paragraphs [0029], [0032] and [0034]), however, the reference is silent as to the use of aluminum and cast polypropylene (CPP), hereinafter CPP. Regarding the nature of the packaging material Sugisawa, teaches bags (container), for packing cooked fish products, that are made from laminates of materials, such as nylon, PET, polypropylene or cast polypropylene (CPP), aluminum foil etc., (Column 2, lines 61-68 and Column 3, line 65). Thus Sugisawa, teaches a multilayered (laminated) bag for packaging cooked fish etc., comprising PET, nylon, CPP and aluminum as recited by the applicant in claims 4 and 13.

Flexible packages made of multilayered films comprising of PET and nylon that can withstand heat treatments have been known in the art for packaging meats including shellfish and crabmeat (Ueyama). Laminated multilayered flexible packages that comprise of PET, nylon, along with aluminum and cast polypropylene (CPP) etc., were also known in the art for their application in high retort food packaging (Sugisawa). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ueyama and use a multilayered film package that also comprises of layers of aluminum and cast polypropylene (CPP) along with the thermoplastic resin like PET and flexible nylon to pack the shellfish meat (crabmeat) in order to ensure a stronger and more heat stable bag or pouch with better elasticity and tear resistance.

One would have been further motivated to use a food package made with multilayered films as taught by Sugisawa for cooked food such as crabmeat to ensure that a seafood package will remain in a good condition upon exposure to heat stabilization or pasteurization process as well as upon exposure to transportation and /or storage conditions.

Therefore, claims 3-5, 7, 10, 12-13, 15 and 18 are unpatentable over in view of the combination of Peterson, Air Liquide Canada and Sugisawa.

Rejection (C)

Claims 3-5, 7, 10, 12-13, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lett et al (GB2343611A), in view of the combination of Peterson et al (J of Food Protection 8/1997, 60 (8), 928-934 (Abstract), Air Liquide Canada (RD 235012 Abstract only), Doerter (US 5268189) and Sugisawa (US 4840805).

Lett et al, hereinafter Lett, teaches of packaging crabmeat in a flexible bags or vessels made from a 170 micron PA-PE having a tubular bottom and the bags are laminated and heat resistant up to a 190 °C. Crabs are pasteurized and then cooled or chilled and then stored in a chilled container maintained between 0-4°C (Page 4, lines 4-15). Lett is silent regarding the prevention of growth of anaerobic bacteria as instantly claimed, however Peterson teaches the effectiveness of pasteurization as a method of preservation. Peterson, teaches pasteurization of crabmeat that is packed in oxygen-impermeable flexible pouches (Abstract). Peterson also teaches that pasteurization process extends the shelf life of packaged crabmeat by inactivating spores of clostridium botulinum and listeria monocytogenes which are anaerobic bacteria. Peterson further teaches that sealed crabmeat in a pouch should be kept refrigerated in order to maintain the safety of the packaged crab product (Abstract). Thus, Peterson provides evidence that packaging of crabmeat in flexible pouches and pasteurizing the packaged crabmeat was known at the time of the invention. Peterson further teaches it

was known in the art at the time of the invention that pasteurization is an effective method to inactivate the spores of anaerobic bacteria, such as, botulinum, when the pasteurized packages are stored under refrigeration, which is also the intent of the applicant.

Regarding the limitation that controlling the volume of air prevents the growth of anaerobic bacteria Lett is silent, however, Canada reference teaches of packaging fish and sea products (i.e., crabs, lobster etc.) under gaseous atmospheres consisting of 60-80% carbon dioxide by volume and 20-40% by volume of oxygen, such that the development of strict anaerobic flora is avoided as instantly claimed. Since anaerobic bacteria grow in the absence of oxygen, therefore, it is the proportion of oxygen in the package that affects the growth of anaerobic bacteria. Thus Canada teaches that pasteurized crabmeat in the presence of about 20-40% oxygen in the atmosphere of the package will be sufficient to avoid anaerobic bacterial growth. Further, based on teachings of Canada reference, it is noted that if 20-40% oxygen by volume can avoid anaerobic bacterial growth then atmospheric air or ambient air (which is about 21% oxygen by volume) when placed in the package will similarly be adequate or able to prevent or obstruct anaerobic bacterial growth (based on the teachings of Canada), as instantly claimed.

Regarding controlling the volume of air in the package, Lett teaches of packaged crabmeat in brine and vacuum packaged (See page 3, lines 1-5), which results in controlling the volume of air. Similarly Doerter also teaches a process of treating and packaging fresh or cooked shellfish meat, such as crab, shrimp or lobster (Column 1, line 11and lines 52-65), by providing a packaging container like a pouch (Column 2, lines 38-39); placing a volume of crabmeat into said packaging vessel (Column 2, lines 35-36). Doerter teaches the addition of a mixture of carrageenan and water to the container containing the shellfish (crabmeat) to effectively removes air from the package, i.e., creates a partial vacuum, (Column 3, lines 6-10). Thus, Doerter teaches of controlling the volume of air within said packaging vessel. Doerter also teaches

sealing of the container after packing (Column 3, lines 11-16) and subsequently sterilizing or pasteurizing the sealed container (Column 3, lines 17-25) as recited by the applicant in claims10, 18 and 19. Doerter also teaches of effectively heating the packaged product to kill microorganisms including Listeria monocytogenes (Column 3, lines 17-20). Killing the microorganisms, such as Listeria (anaerobic bacteria), by heat treatment methods taught by Doerter will prevent the growth of such anaerobic bacteria in the package, as instantly claimed. Thus packaging of shellfish meat including crab in flexible pouches was known at the time of the invention as taught by Lett and Doerter. Also heat treatment of the packaged meat by pasteurization or sterilization in order to kill the naturally occurring bacteria (including anaerobic bacteria) was also known in the art of packaging shellfish meat at the time of the invention, as instantly recited in claims 10 and 18.

Regarding controlling / adjusting the volume in the package, for example, Canada teaches of partial vacuum and adjusting the volume of air such that the anaerobic bacterial growth is avoided (Abstract) and Lett and Doerter teach adjusting the volume of air from the package by adding a mixture of brine and carrageenan respectively before sealing the package. As to the specific volume of ambient air in the package to obtain the ambient air to crabmeat ratio within the package to about 13-20% (as recited in claims 10 and 18) or about 20% (as recited in claims 15 and 7). Sugisawa teaches packaging the cooked fish product under vacuum (Column 3, lines 7-8), where the volume of air in the package is preferably kept to 15% of the total package volume, to improve the effect of sterilization and to prevent fish meat from breaking (Column 3, lines 7-16). Thus, Sugisawa teaches partial vacuum in the package as recited in claim 5. Sugisawa teaches that if the total volume of the package is 100, the air volume will be 15. Therefore, fish volume taught by Sugisawa will be 85 and the resulting ratio of air to fish/meat will be 18%, i.e., about 20% by volume, as recited by the applicant in claims 5, 7, 10, 15 and 18.

In summary, the prior art of record in combination, recognized the problem of packaging seafood and crabmeat while preventing anaerobic bacterial growth. Prior art also disclosed that in the art of packaging meat or fish or crabmeat the following facts/steps were known at the time of the invention:

- Packaging of fish, crabmeat or other seafood in flexible packages was known in the art at the time of the invention (Lett, Doerter, Peterson and Canada).
- Reducing the amount of air from the package before sealing and heat treating (i.e., sterilizing or pasteurizing) the packaged food for longer and safe shelf life of the food (Doerter, Peterson, Canada).
- Placing a volume of crabmeat or sea product or fish in the vessel was also known in the art (Canada).
- Sealing the package after adjusting the volume of air was also known in the art (Lett, Canada and Doerter).
- Pasteurizing meat as a method of heat treatment for preservation of seafood was known at the time of the invention (Lett, Peterson and Canada).
- Controlling and adjusting the relative proportion of oxygen to 20-40% by volume of the total gas volume can successfully avoid anaerobic bacterial growth in the packaged seafood (Canada). If 20-40% oxygen by volume can avoid anaerobic bacterial growth then presence of atmospheric air or ambient air (which is about 21% oxygen by volume) in the package will similarly be adequate or able to prevent or obstruct anaerobic bacterial growth (based on the teachings of Canada).
- Controlling or adjusting the air volume in the packaged meat to about 15% or less of the total package volume (or air to meat ratio of about 20% or less by volume), enhances the effect of heat treatment (i.e., sterilization/ pasteurization etc) or preserves the cooked seafood product better (Sugisawa, Column 3, lines 3-34 and Example 1). Thus adjusting the volume of air (oxygen) inside a package

improves the storage properties of packaged shellfish as taught by Canada and Sugisawa.

Thus, adjusting or controlling the volume of air in the package prior to sealing and pasteurizing was also known in the art at the time of the invention (Doerter, Canada, Sugisawa). Adjusting the air to meat ratio in the recited range of 13-20% by partially vacuuming the pack, was known in the art of packaged food (Sugisawa). It was also known at the time of the invention that 20-40% by volume of oxygen (based on the total gas volume of the package) is sufficient to prevent anaerobic bacterial growth in packaged seafood (Canada). If 20-40% oxygen by volume can avoid anaerobic bacterial growth then atmospheric air or ambient air which is about 21% oxygen by volume, present in the package will be adequate or able to prevent or obstruct growth of anaerobic bacterial species, such as, clostridium botulinum and listeria monocytogenes etc. (based on the teachings of Canada), as instantly claimed. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Lett in view of Canada and Sugisawa and package crabmeat such that the package includes air in a suitable amount at least for the purpose of preventing anaerobic bacterial growth, such as air in an amount of 18% (about 20%) of air by volume, in proportion to the packaged shellfish (crabmeat) product as taught by Sugisawa, at least in order to enhance the effect of heat treatment. One would have also been motivated to modify Lett and add air to the packaged food product in order to make the product with fewer amounts of additives (brine) and still provide some cushion (air) to prevent deterioration of crabmeat due to breaking. One would have been further motivated to package with air to food ratio of about 20% to have a packaged fish or shellfish product with less bacteriological damage during processing and storage.

Regarding claims 3, 4, 12 and 13, Lett teaches that the pouch or bag for packaging crabmeat are made from a 170 micron PA-PE having a tubular bottom and the bags are laminated and heat resistant up to a 190^{0}C. Doerter teaches of bags that are made of a high-density polyethylene resin (Column 2, lines 42-43). Sugisawa,

teaches bags (container), for packing cooked fish products, that are made from laminates of materials, such as nylon, polyethylene terapthalate (PET), polypropylene or cast polypropylene (CPP), aluminum foil etc., (Column 2, lines 61-68 and Column 3, line 65). Therefore, Sugisawa, teaches a multilayered (laminated) bag for packaging cooked fish etc., comprising PET, nylon, CPP and aluminum as recited by the applicant in claims 3, 4, 12 and 13.

Thus, flexible packages made of high-density polyethylene that can withstand heat treatments were known in the art for packaging meats including shellfish and crabmeat (Lett and Doerter) at the time of the invention. Utilization of laminated multilayered flexible packages that comprising of PET, nylon, aluminum (oxygen barrier) and cast polypropylene (CPP) etc. , was well known in the art for their application in high retort food packaging as taught by Sugisawa. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the PA-PE package of Lett and use a multilayered film bag or vessel or package comprising of layers of thermoplastic resin like PET, with nylon, aluminum and CPP to pack the shellfish (crabmeat) in order to ensure a strong, heat stable bag or pouch with better elasticity and tear resistance. One would have been further motivated to use a food package made with multilayered film as taught by Sugisawa for cooked food, such as crabmeat, ensure that a seafood package will remain in a good condition upon exposure to heat stabilization or pasteurization process as well as upon exposure to transportation and /or storage conditions.

Therefore, claims 3-5, 7, 10, 12-13, 15 and 18 are unpatentable over Lett, in view of the combination of Peterson, Air Liquide Canada, Doerter and Sugisawa.

Rejection (D)

Claims 3-5, 7, 10, 12-13, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al (US3852486) in view of the combination of Ueyama et al. (US 2002/0061412) and Sugisawa et al (US 4840805).

Regarding claims 10, and 18, Walker et al., hereinafter Walker teaches a process of preserving shellfish meat, including crabmeat, by packaging and pasteurizing shellfish meat, such that the pasteurization is effective in destroying all the pathogenic bacteria and inhibit the growth of clostridium botulinum (which is an anaerobic bacterial species) under conditions of mild refrigeration (Abstract, Column 2, lines 14-35).

Walker teaches of pasteurization of the meat in such a way as to avoid recontamination. Walker also teaches of placing the meat in flexible plastic bags and seal by heat sealing (Column 4, line 39-68) as recited in claims 10 and 18. Regarding the volume of air in the package Walker teaches of making thin flat packages to accelerate heat penetration into the package (Column 5, lines 39-58 and 59-68), i.e., partial evacuation of the package by flattening the packages. Walker also teaches that the cooked meat is placed in packages where the packages are left unsealed in order to prevent damage to the plastic bags or vessels by the rapid expansion of air during heating (i.e., adjusting or controlling the air volume). The packages of cooked pasteurized meat are sealed automatically at the end of the pasteurization process under sterile conditions (Column 6, lines 33-65). Thus the reference teaches of the method of packaging crabmeat and a packaged crabmeat product in flexible pouches, adjusting the volume, preventing anaerobic bacterial growth and pasteurizing as recited.

Regarding the characteristics of the package as recited in claims 3 and 12, Walker is silent, however, Ueyama teaches a heat shrinkable multilayer film and packages made using the film for packaging for meats such as crabs, fish and other marine products (Page 5, paragraph [0066]) and the product packaged using the multilayer film (Page 7, paragraph [0099] and other examples). Ueyama also teaches packaging the desired product in a vessel, such as a bag or pouch (Page 1, paragraph [0002]) and placing a volume of the desired product in the packaging vessel and forming a casing; sealing the bag or package (page 7, paragraphs [0094] and [0099]); and heat treating (by sterilizing) said sealed packaging vessel (Page 3, paragraph [0039]).

Regarding controlling the volume of the package, Walker teaches of adjusting the air volume by letting the heated air in the package expand. Walker and Ueyama do not specify any specific air to crabmeat ratio to prevent undetected anaerobic bacterial growth, however, Sugisawa teaches packaging the cooked fish product under vacuum (Column 3, lines 7-8), where the volume of air in the package is preferably kept at less than 15% of the total package volume, to improve the effect of sterilization and to prevent fish meat from breaking (Column 3, lines 3-34 and Example 1). Thus, Sugisawa teaches of controlling the air in the package by having partial vacuum in the package (as recited in claim 5) where if the total volume of the package is 100, the air volume will be 15. Therefore, fish volume taught by Sugisawa will be 85 and the resulting ratio of air to fish/meat will be 18%, i.e., about 20% by volume, as recited by the applicant in claims 5, 7, 10, 15, and 18.

In summary, the prior art of record in combination, recognized the problem of packaging food while preventing anaerobic bacterial growth in packaged meat or fish or shellfish or especially crabmeat products. The following facts/steps were known at the time of the invention:

- Anaerobic bacterial growth in packaged foods was a known problem at the time of the invention, for example, growth of clostridium botulinum (anaerobic bacteria) in packaged canned goods was well known cause of spoilage of packaged food known at the time of the invention (Walker).
- Packaging of fish, crabmeat or other seafood in flexible packages was known in the art at the time of the invention (Walker and Ueyama).
- Reducing the amount of air from the package before sealing and heat treating (i.e., sterilizing or pasteurizing) the packaged food for longer and safe shelf life of the food (Ueyama, and Sugisawa).
- Placing a volume of crabmeat or sea product or fish in the vessel was also known in the art (Walker, Ueyama and Sugisawa).

- Sealing the package after adjusting the volume of air was also known in the art (Walker and Sugisawa).
- Pasteurizing meat as a method of preservation of seafood was known at the time of the invention (Walker).
- Controlling or adjusting the air volume in the packaged meat to about 25-15% or less of the total package volume (or air to meat ratio of about 33-18% or less by volume), enhances the effect of heat treatment (i.e., sterilization/ pasteurization etc) or preserves the cooked seafood product better (Sugisawa, Column 3, lines 3-34 and example 1, Column 3, lines 65-66). Thus controlling /adjusting the volume of air (oxygen) inside a package improve the storage properties of packaged shellfish as taught by Sugisawa.

Therefore, based on the above discussion, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Walker to package the shellfish (crabmeat) in a package made of multilayered film as taught by Sugisawa and control the volume of air inside the package by creating a partial vacuum such that the package includes air in a suitable amount at least for the purpose of preventing spoilage due to anaerobic bacterial growth, such as, the air to meat ratio of 18% (which includes about 20%) is achieved as taught by Sugisawa. One would be motivated to control the air volume in the packaged and heat treated (i.e., pasteurized or sterilized) meat in order to enhance the storage life of the packaged product by preventing microbial deterioration of packaged food by anaerobic bacterial growth. Furthermore, one of ordinary skill in the art would have been motivated to package with air to food ratio of about 20% (Sugisawa) to have a packaged fish or shellfish product with fewer additives in the packaged product and also have an air cushion, which will help in reducing the physical damage during processing, transportation and storage.

Regarding claims 4 and 13, Walker teaches of a plastic package for the crabmeat (Column 6, lined 33-38), however the reference does not teach the multilayered

packaging film. Ueyama teaches of a multilayered film that comprises at least one layer of polyethylene teraphthalate or PET (Page 2, paragraph [0024] and page 3, paragraph [0027]); at least one layer of nylon (Page 3, paragraphs [0029], [0032] and [0034]), however, the reference is silent as to the use of aluminum and cast polypropylene. Regarding the nature of the packaging material Sugisawa, teaches bags (container), for packing cooked fish products, that are made from laminates of materials, such as nylon, polyethylene terapthalate (PET), polypropylene or cast polypropylene (CPP), aluminum foil etc., (Column 2, lines 61-68 and Column 3, line 65). Therefore, Sugisawa, teaches a multilayered (laminated) bag for packaging cooked fish etc., comprising PET, nylon, CPP and aluminum as recited in claims 4, 13 and 20.

Flexible packages made of multilayered films comprising of PET and nylon that can withstand heat treatments were known in the art for packaging meats including shellfish and crabmeat (Walker and Ueyama).

Laminated multilayered flexible packages that comprise of PET, nylon, aluminum and cast polypropylene (CPP) etc., were also known in the art for their application in high retort food packaging (Sugisawa). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Walker and use a multilayered film package that also comprises of layers of aluminum and CPP along with the thermoplastic resin like PET and flexible nylon to pack the shellfish (crabmeat) package to ensure a stronger and more heat stable bag or pouch with better elasticity and tear resistance. One would have been further motivated to use a food package made with multilayered film as taught by Sugisawa for cooked food, such as crabmeat, ensure that a seafood in a good condition upon exposure to heat stabilization or pasteurization process as well as upon exposure to transportation and/or storage conditions.

Therefore, claims 3-5, 7, 10, 12-13, 15 and 18 are rejected as being unpatentable over Walker in view of the combination of Ueyama and Sugisawa.

Response to Arguments

Applicant's arguments filed 6/21/2011 and 12/5/2011 have been fully considered but they are not persuasive.
The responses to the above arguments also appear below in the same order as presented in applicant's Brief on pages 9-17

General Argument

Applicant claims that " Once pasteurized , the claimed ambient air to crabmeat ratio retards the growth of aerobic and anaerobic bacteria, but not to the point at which spoilage becomes undetectable". In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. a pasteurization process that "the specific ambient air to crabmeat ratio retards the growth of aerobic and anaerobic bacteria, but not to the point at which spoilage becomes undetectable" – emphasis added, see page 9, lines 5-7 of the appeal brief) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

1. Response to arguments about claims 3-5, 7, 10, 12, 13, 15 and 18 over combination of Doerter, Peterson, Byrd, Air Liquide Canada, Sugisawa.

Applicant's argues that Doerter, Peterson, Byrd and Canada do not teach "ambient air to crabmeat ratio of about 13-20 percent by volume" as claimed. Applicant's arguments that Doerter and other references do not teach a packaged crabmeat product as recited in claims 3-5,7,10, 12-13, 15 and 18 (Brief, pages 9-11), however, claims as recited address packaged crabmeat product, which is packaged by

the process as recited in claims 3-5,7,10, 12-13, 15 and 18. Further the claims recite " product comprising …"., and comprising is an open ended term. It has been held that the use of the term "comprising" leaves a claim open for inclusion of material or steps other than recited in the claims. Ex parte Davis, 80 USPQ 448 (PTO Bd. App. 1948). Use of the term « comprising » does not exclude the presence of the element. In re Hunter, 288 F. 2d 930, 129 USPQ 25 (CCPA 1961).

i) The main argument is references not teaching the ambient air to crabmeat ratio (Appeal Brief pages 9-11) and applicant points to each reference as to how it teaches away from the air to crabmeat ratio of about 13 to 20 percent by volume. In the instant case, applicant's arguments have not been found persuasive and have been responded below. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant's argument that Doerter teaches away from the invention (appeal brief, page 9) is not persuasive. **Doerter** teaches a process of treating and packaging fresh or cooked shellfish meat, such as crab, shrimp or lobster (Column 1, line 11 and lines 52-65) and the packaged product made, by providing a packaging container like a pouch (Column 2, lines 38-39); placing a volume of crabmeat into said packaging vessel (Column 2, lines 35-36). Since the surrounding air (ambient air) will enter the package when the package is open, Doerter teaches of placing a volume of air (ambient air) in the packaging container before sealing of the container after packing (Column 3, lines 11-16) and subsequently pasteurizing the sealed container (Column 3, lines 17-25) as instantly claimed. Doerter also teaches of effectively heating the packaged product to kill microorganisms including Listeria monocytogenes (Column 3, lines 17-20). Killing the microorganisms, such as Listeria (anaerobic bacteria), by heat treatment methods taught by Doerter will prevent the growth of such anaerobic bacteria in the package, as instantly claimed. Doerter teaches crabmeat in a specific package environment and that

package environment is being modified by the package environment taught by Sugisawa, and motivation provided, in the rejection A of independent claims 10 and 18. Applicant argues that Doerter teaches away from the claimed invention. Applicant supports this argument by stating that Doerter encourages "removal of ambient air from the package" (Appeal Brief, Page 10, lines 1-2). This argument is not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The above argument is also applicable to applicant's arguments about **Byrd.** Byrd discloses of minimizing the amount of air in the container by, for example, vacuumizing or tightly packaging..." (Appeal Brief, page 10, paragraphs 3-4). This does not imply that Byrd reference only operates when there is a complete vacuum. The vacuumizing is simply a process of removing air to control air volume, not necessarily complete removal of air. More specifically, Byrd teaches that it is desirable to reduce the amount of air space (control the volume of air) in the package by packing tightly (Column 2, lines 44-49), which would create partial vacuum. Therefore, Byrd reference does not teach against achieving a specific air to meat volume ratio.

The above argument is also applicable to applicant's arguments that "**Air Liquide** reference teaches away from a packaged crabmeat product...". Applicant argues that Air Liquide (referred to as Canada reference in office actions) teaches "requires the removal of all air from the package before introducing a specific gaseous atmosphere" (Appeal Brief, page 10, last 3 paragraphs), is also not persuasive. This does not imply that Canada reference teaches away simply because it has an additional step where air is first removed before the step of creating a specific package atmosphere. Applicant further argues that "the requirement of an ambient air to crabmeat ratio of about 13 to 20 percent by volume would compromise the modified atmosphere taught by Air Liquide reference and would render the modified atmosphere

inadequate for its intended purpose". Again, as explained above, the argument is not persuasive because the package taught by Air Liquide reference is capable of supporting a different atmosphere (such as a gaseous atmosphere with the claimed ambient air percentage) – this change does not change the principle of operation of the primary reference or render the reference inoperable for its intended purpose (i.e. preventing anaerobic bacterial growth in the package).

Applicant also argues that **Peterson** does not teach "a packaged crabmeat product having an ambient air to crabmeat ratio of about 13 to 20 percent by volume" (Appeal Brief, page 10, paragraph 2). Applicant is once again attacking Peterson reference individually. In the instant case, Peterson is not being relied upon to teach a package or a packaged product having "an ambient air to crabmeat ratio of about 13 to 20 percent by volume". Instead, Sugisawa is relied upon for this teaching. Peterson's packages lack advantages associated with applicants' invention. Applicant seems to arrive at this conclusion based on the reasoning that Peterson does not teach "sealing crabmeat and an ambient air in a flexible pouch at an ambient air-to-crabmeat ratio of about 13 to 20 percent by volume" (Declaration by John Keeler Jr. of 3/12/2010, page 4, lines 3-5). In response to applicant's above arguments against the references individually (i.e. Peterson reference individually),

Applicant's argument against **Sugisawa** is that "One of ordinary skill…would not apply the teachings of Sugisawa to crabmeat, let alone modify a flexible pouch containing crabmeat to include an ambient air to crabmeat ratio of about 13 to 20 percent by volume" (Appeal Brief, page 9, Argument 1., lines 4-6). This argument is not persuasive. In the instant case Sugisawa is relied upon to show obviousness of that limitation and Sugisawa is not being relied upon to teach a package for crabmeat - that aspect is already taught e.g., by Doerter, and the concepts taught by Sugisawa are applicable to Doerter's package, as explained in the rejection.

Sugisawa teaches packaging a cooked fish product under vacuum (Column 3, lines 7-8), wherein the volume of air in the package is preferably kept less than 15% of the volume of the entire package, to improve the effect of sterilization and to prevent fish meat from breaking (Column 3, lines 3-34 and Example 1). Thus, if the total volume of the package is 100, the air volume as taught by Sugisawa would be 15 and hence the meat volume will be 85. Thus, the resulting ratio of air to meat will be 18% (15/85). In other words, ambient air to meat ratio as taught by Sugisawa is 18% (or about 20%) by volume. As addressed in the previous rejections and as pointed in the decision of Board of 7/6/2009, it is explained that Sugisawa's range of less than 25 volume% air (33% or less air: fish ratio) (col. 3, lines 10-11) encompasses the Applicant's range and, therefore, would render the Applicant's air contents prima facie obvious to one of ordinary skill in the art. Sugisawa's preferred range of less than 15 volume % air (18% or less air: fish ratio) (col. 3, line 11) overlaps the Applicants range. Use of amounts within the overlapping range would have been prima facie obvious to one of ordinary skill in the art at the time of the invention. *See In re Malagari,* 499 F.2d 1297, 1303 (CCPA 1974).

The examiner submits that Sugisawa teaching of a specific ratio of air by volume in the package does not change the principle of operation of the primary reference or render the reference inoperable for its intended purpose. See MPEP § 2143.01. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." *In re Keller,* 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also *In re Sneed,* 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983). It is not necessary that the inventions of the references be physically combinable to render obvious the invention under review." and *In re Nievelt,* 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973). Combining the teachings of references does not involve an ability to combine their specific structures. Thus, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore, prior arts must be considered in entirely, including discloses that teach away from the claims, MPEP § 2143.01-02.

Applicant also argues that "one of ordinary skill in the art would not apply teaching of Sugisawa to crabmeat". Applicant supports this argument based on the conclusion that "Sugisawa discloses dried, broiled fish (not crabmeat using a vacuum sealing process to remove as much air as possible (not to an ambient air to crabmeat ratio of 13-20 percent by volume) and sterilizing (not pasteurizing) the sealed product" (appeal Brief, page 12, lines 3-6, John Keeler Sr. Declaration, paragraphs 9-13). Thus, applicant argues Sugisawa is directed to a different field of endeavour from claimed invention which is "packaging" and "pasteurizing" "crabmeat" to achieve "13-20 percent by volume air to crabmeat ratio". Applicant is once again arguing against references individually. In the instance case Similarly applicants' argument that Sugisawa teaches sterilization (Page 7, Para 2) and invention as claimed requires pasteurization is also not persuasive for the same reason as one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. Pasteurization as a method of heat treating is taught by Doerter, Peterson, Byrd, Canada, Lett and Walker and Sugisawa is not relied upon to teach the heat treatment step as argued (also see the rejections above).

Further regarding Sugisawa not teaching the advantage of preventing development of anaerobic bacteria as claimed, as discussed in the previous office actions and as also pointed in the board decision that for a prima facie case of obviousness to be established, the applied prior art need not recognize a particular advantage recognized by the Applicant. *See Exparte Obiaya,* 227 USPQ 58, 60 (BPAI 1985) ("The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious"). Moreover, L'Air Liquide or (Canada reference) would have indicated to one of ordinary skill in the art that

Sugisawa's air provides the Applicant's recognized benefit of avoiding development of anaerobic spores (Applicant' s Spec. q[10; L'Air Liquide p. 23512).

Applicant also appears to challenge the obviousness based on applicant's belief that the claimed invention claimed "ambient air to crabmeat ratio of about 13 to 20 percent by volume" provides unexpected benefits that rebut obviousness in this case. However, by applicant's own admission, the benefits result from the claimed "ambient air to crabmeat ratio of about 13 to 20 percent by volume". Applicant's arguments that the cited references do not teach the above ratio have already been addressed above and it has been established that the cited references do teach "ambient air to crabmeat ratio of about 13 to 20 percent by volume". Therefore, the cited advantages are inherent in the cited prior art and cannot constitute "unexpected benefits that rebut obviousness in this case".

ii) Similarly applicants' argument against Sugisawa and Air liquide Canada that "nothing in Sugisawa and … would direct a person having ordinary skill in the art to intentionally leave a certain minimum quantity of air in the package" (Appeal Brief, page 12, last 5 lines) and "air having 21% oxygen and 0.03% carbon dioxide" would not work as well as "air liquide's modified atmosphere having 20% oxygen and 80% carbon dioxide (remarks, page 7, last Para and page 8). This argument is not persuasive as discussed in the rejection above. Both the references teach adjusting the volume of air which effectively adjusts the amount of oxygen in the packaged product and it is the presence and amount of oxygen and not the amount of carbon dioxide that prevents the growth of anaerobic bacteria. Thus once again the prior art is trying to solve the same problem (i.e., preventing anaerobic bacterial growth in the packaged product) as is being solved by the applicant.

Furthermore, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). As discussed above regarding the rejections.

iii) Applicant's argument based on statement 16 of John Keeler Sr. Declaration (Evidence) that "sterilization" and "pasteurization" are two distinct process" and conclude that sterilization is not suitable for crabmeat (Appeal Brief, Page 13, last 2 paragraphs and Keeler Sr. Declaration page 4, point 16). This argument is not persuasive. First of all, applicant appears to imply that packaging of "fish" and "crabmeat" are non-analogous art, which is not persuasive. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Sugisawa teaches of packaging fish or fresh sea products, which would encompass crabmeat.

Further, applicant also appears to allege that sterilization and pasteurization are also non-analogous art by stating that a person skilled in the art would not look to a reference directed to "sterilizing dried, broiled fish when seeking to package pasteurized crabmeat". This argument is not persuasive. Sterilization and pasteurization are both widely known methods of heat treating foods to control, for example, microbial content of the food. Thus, they are related processes. Further, Doerter and not Sugisawa is relied upon to teach pasteurization. In fact, Doerter teaches that packaged shellfish can either be pasteurized or sterilized (Column 3, lines 17-25), further confirming that it is common in the art to look at both pasteurization and sterilization by people skilled in the art of packaging food for preservation.

iv) Applicant also argues that "Crabmeat is not fish" (Appeal Brief, page 13, Paragraphs 3-4). Applicant supports this argument by stating that "Morphological

properties of crab are uniquely different….,crabmeat typically carries a greater concentration and variety of bacterial flora than fish ...crabmeat spoils easier" (Appeal Brief, page 13, paragraph 4, John Keeler Sr. Declaration of 7/6/09 page 4, points 9-14). First of all, applicant appears to imply that packaging of "fish" and "crabmeat" are non-analogous art, which is not persuasive. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Sugisawa teaches of packaging fish or fresh sea products, which would encompass crabmeat. Further in response that bacterial flora of crabmeat are distinct, applicant is referred that claim as recited are concerned with adjusting the amount of air, such that anaerobic bacterial growth can be prevented (by providing a specific volume of air in the package), which relates to the presence of oxygen in the package and can be solved by providing a certain amount of oxygen in the package, as discussed above.

v) With respect to the commercial success argument that US FDA has "never detained or rejected any imported ...pouches...as a result of pouch rupture...botulinum...confirming not only commercial success , but the significance of claimed package"(Appeal Brief, page 14, paragraph 3) **and** as stated in the declaration by Inventor John Keeler, Jr. of 3/12/2010 (Points 4-12, pages 2-3 of declaration). This argument is once again not found persuasive and as explained in previous office action it is not clear if the claimed invention resulted in no rejection from FDA due to pouch rupture addresses pouch sealing and no Botulinum (an anaerobic bacteria) whether other factors contributed to the success, such as to broad aspects about BLUE STAR® pouches, such as, packaging and shipping quality control, which are not the subject of claims as addressed. Thus, applicant's argument about commercial success has not been found convincing. "In considering evidence of commercial success, care should be taken to determine that the commercial success alleged is directly derived from the invention claimed, in a marketplace where the consumer is free to choose on the basis

of objective principles, and that such success is not the result of heavy promotion or advertising, shift in advertising, consumption by purchasers normally tied to applicant or assignee, or other business events extraneous to the merits of the claimed invention, etc. (In re Mageli, 470 F.2d 1380, 176 USPQ 305 (CCPA 1973)).

2. Response to arguments about claims 3-5, 7, 10, 12, 13, 15 and 18 over combination of Ueyama, Peterson, Air Liquide Canada, Sugisawa references.

On pages 14-15, applicant alleges that Ueyama teaches " a heat shrinkable multi-layered film for packaging…crabs), fish…other marine products", see page 14, last 2 paragraphs, and "multilayered film that shrinks when subjected to heat" (Appeal Brief, page 15, lines 1-2) and concludes that the reference does not teach the claimed "air to crabmeat ratio" and also "teaches away" citing that if the teachings of Ueyama were "applied to the packaged crabmeat product as claimed, the product would shrink during the pasteurization process, thereby rendering it difficult, if not impossible, to achieve the desired ambient air to crabmeat ratio...". This argument is not persuasive.

Ueyama teaches package shrinkage but it does limit the size of the package and does not preclude the presence of air in the package. Removing all the air from the package of Ueyama is one of the possibilities, but not a requirement. Thus, it is not clear why applicant believes it would not be possible to create a specific atmosphere in the package.

Further, the examiner submits that Sugisawa's teaching of a specific ratio of air by volume in the package does not change the principle of operation of the primary reference (Ueyama) or render the reference inoperable for its intended purpose. See MPEP § 2143.01. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ

385, 389 (Fed. Cir. 1983). It is not necessary that the inventions of the references be physically combinable to render obvious the invention under review."; and *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973). Combining the teachings of references does not involve an ability to combine their specific structures. Thus, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore, prior arts must be considered in entirely, including discloses that teach away from the claims, MPEP § 2143.01-02.

Applicant's arguments of "combination" of references, the "unexpected advantages' and the "affirmative step of controlling a volume of ambient air within a flexible pouch to obtain an ambient air to crabmeat ratio of about 13 to 20 percent by volume" have already been addressed in section 1. of response to arguments.

3. Response to arguments about claims 3-5, 7, 10, 12, 13, 15 and 18 over combination of Lett, Peterson, Air Liquide Canada, Doerter and Sugisawa references.

On page 15, applicant presents a new argument stating that Lett et al. reference teaches away from a packaged crabmeat product having an ambient air to crabmeat ratio of about 13 to 20 percent by volume. Applicant appears to conclude this because Lett reference teaches "packing crab (whole crab)" in a plastic pouch that has been "filled with brine and has been vacuum sealed to remove air" (Page 10). This argument is not persuasive. The recitation of independent claim 10 (as also claim 18) requires air but does not exclude the presence of other elements like water or brine. Further, brine is a fluid composition design to achieve specific packaging objectives that may include preservation, cushioning, etc. which is also true of air. Thus, the mere use of a different fluid (i.e. air instead of water as part of brine) does not change the principle of operation of the reference. The examiner submits that Lett does not teach away from a specific ratio of air by volume in the package because use of such a volume ratio (where the

fluid used is air) does not change the principle of operation of the primary reference or render the reference inoperable for its intended purpose. See MPEP § 2143.01.

Applicant's arguments of "combination" of references, the "unexpected advantages' and the "affirmative step of controlling a volume of ambient air within a flexible pouch to obtain an ambient air to crabmeat ratio of about 13 to 20 percent by volume" have already been addressed in section 1. of response to arguments.

4. Response to arguments about claims 3-5, 7, 10, 12, 13, 15 and 18 over combination of Walker, Ueyama and Sugisawa references.

On page 16, applicant presents arguments with respect to Walker reference. However, no new arguments are presented. The arguments of "combination" of references and the "an ambient air to crabmeat ratio of about 13 to 20 percent by volume" have already been addressed. The arguments are presented with respect to Walker reference but are similar to previous arguments. As indicated in the rejection, Walker is not relied upon to teach the claimed ratio. However, applicant also argues that Walker teaches away because it teaches "impregnating the cooked meat with an aqueous solution of an inorganic chloride ...an antibacterial agent ...and an organic acid" (Appeal Brief, page 16), however no specific argument is presented regarding Walker other than Walker not teaching the claimed ambient air to crabmeat ratio.

Regarding the claims it is noted that although the claims as recited require air but do not exclude the presence of other elements like an aqueous solution. Further, an aqueous solution may be a fluid composition designed to achieve a specific packaging objective that may include preservation, cushioning, etc. which is also true of air. Thus, the mere use of a different fluid (i.e. air instead of water as part of aqueous solution) does not change the principle of operation of the reference. As such, the examiner submits that Walter does not teach away from a specific ratio of air by volume in the package because use of such a volume ratio (where the fluid used is air) does not

change the principle of operation of the primary reference or render the reference inoperable for its intended purpose. See MPEP § 2143.01.
Further the claims recite " product comprising ...", and comprising is an open ended term. It has been held that the use of the term "comprising" leaves a claim open for inclusion of material or steps other than recited in the claims. Ex parte Davis, 80 USPQ 448 (PTO Bd. App. 1948). Use of the term « comprising » does not exclude the presence of the element. In re Hunter, 288 F. 2d 930, 129 USPQ 25 (CCPA 1961).

Applicant's arguments of "combination" of references, the "unexpected advantages' and the "affirmative step of controlling a volume of ambient air within a flexible pouch to obtain an ambient air to crabmeat ratio of about 13 to 20 percent by volume" have already been addressed in section 1. of response to arguments.

Applicant's arguments have not been found persuasive and for the above reasons it is believed that the rejections should be sustained.

5. Response to arguments made in the declarations.

Response to Declaration by John Keeler Sr. of 7/6/2009

i) John Keeler Sr. declaration argues that one of ordinary skill in the art would not even consider Sugisawa, based on the conclusion that "Sugisawa is directed to a different field of endeavour –the packaging of sterilized , dried , broiled fish" which are not relevant to the packaging a pasteurizing crabmeat. (Keeler Sr. Declaration, points 9-15). This argument that "crabmeat is not fish" has already been responded in response to argument (1) part (iv) above.

The applicant appears to imply that packaging of "fish" and "crabmeat" are non-analogous art, which is not persuasive. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443,

24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Sugisawa teaches of packaging fish or fresh sea products, which would encompass crabmeat.

ii) John Keeler Sr. also argues that bacterial flora of crabmeat is uniquely different from fish. In response that bacterial flora of crabmeat are distinct (Declaration Point 15), applicant is referred that claim as recited are concerned with adjusting the amount of air, such that anaerobic bacterial growth can be prevented (by providing a specific volume of air in the package), which relates to the presence of oxygen in the package and can be solved by providing a certain amount of oxygen in the package, as discussed in the rejection and in view of Sugisawa and Air liquide in response to argument (1) part(ii) above.

iii) John Keeler Sr. also argues in points 16-17 of the Keeler Sr. Declaration that "sterilization" and "pasteurization" are two distinct process" and conclude that sterilization is not suitable for crabmeat (Affidavit page 4, point 16). This argument that "crabmeat is not fish" is not persuasive and has already been responded in response to argument (1) part (iii) above. Attention is invited to Doerter where it is clearly taught that packaged shellfish can either be pasteurized or sterilized (Column 3, lines 17-25), further confirming that it is common in the art to look at both pasteurization and sterilization by people skilled in the art of packaging food for preservation.

iv) In Paragraphs 18-24 John Keeler Sr. argues against individual references namely Sugisawa and Air liquide and these arguments have already been addressed in response to arguments 1-4 above.

v) Declaration of John Keeler Sr. also discusses heat transfer and its efficiency and effectiveness as applied to prior art however, which is just an opinion and since the heat transfer efficiency is not in the claims, it is unclear as to what limitation is being referred to in point 22 of John Keeler Sr. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the

features upon which applicant relies (i.e., effective and efficient heat transfer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In general, John Keeler Sr. declaration argues against applied references and provides opinions however, no evidence has been provided to substantiate those opinions.

Declaration Under 35 USC 1.132 by John Keeler Sr. has been fully considered but has not been found persuasive (see response to arguments above).

Response to Declaration BY John Keeler Jr. of 3/12/2010

With respect to the **commercial success** as stated in the declaration by Inventor John Keeler, Jr. of 3/12/2010 (Points 4-12, pages 2-3 of declaration) it is not clear if the claimed invention resulted in the commercial success or whether other factors contributed to the success, such as a change in marketing methods, competitive pricing, and sale in big chain supermarkets. Commercial success of pouch packed crabmeat can also result if BLUE STAR brand increased focus on packaging in pouches as compared to another type of package, such as cans etc. Further it is unclear as to what proportion of this commercial success is attributable to the ambient air to crabmeat ratio of 13-20%, i.e., the invention, as compared to competitive pricing relative to other packaged crabmeat products. "In considering evidence of commercial success, care should be taken to determine that the commercial success alleged is directly derived from the invention claimed, in a marketplace where the consumer is free to choose on the basis of objective principles, and that such success is not the result of heavy promotion or advertising, shift in advertising, consumption by purchasers normally tied to applicant or assignee, or other business events extraneous to the merits of the claimed invention, etc. (In re Mageli, 470 F.2d 1380, 176 USPQ 305 (CCPA 1973)).

Even if the commercial success argument was found convincing applicant's argument against other references not teaching the air to crabmeat ratio is not convincing. Applicant argues that Peterson's packages lack advantages associated with applicants' invention. Applicant seems to arrive at this conclusion based on the reasoning that Peterson does not teach "sealing crabmeat and an ambient air in a flexible pouch at an ambient air-to-crabmeat ratio of about 13 to 20 percent by volume" (Declaration by John Keeler Jr. of 3/12/2010, page 4, lines 3-5). In response to applicant's argument against the references individually (i.e. Peterson reference individually), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, Peterson is not being relied upon to teach a package or a packaged product having "an ambient air to crabmeat ratio of about 13 to 20 percent by volume". Instead, Sugisawa reference is relied upon for this teaching. As addressed in the rejections and as pointed in the decision of Board of 7/6/2009, it is explained that Sugisawa's range of less than 25 volume% air (33% or less air: fish ratio) (col. 3, lines 10-11) encompasses the Applicant's range and, therefore, would render the Applicant's air contents prima facie obvious to one of ordinary skill in the art. Sugisawa's preferred range of less than 15 volume % air (18% or less air: fish ratio) (col. 3, line 11) overlaps the Applicants range. Use of amounts within the overlapping range would have been prima facie obvious to one of ordinary skill in the art at the time of the invention. *See In re Malagari,* 499 F.2d 1297, 1303 (CCPA 1974).

Further regarding Sugisawa not teaching the advantage of preventing development of anaerobic bacteria as claimed, as discussed in the previous office actions and as also pointed in the board decision that for a prima facie case of obviousness to be established, the applied prior art need not recognize a particular advantage recognized by the Applicant. *See Exparte Obiaya,* 227 USPQ 58, 60 (BPAI 1985) ("The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious"). Moreover, L'Air Liquide or (Canada reference) would

have indicated to one of ordinary skill in the art that Sugisawa's air provides the Applicant's recognized benefit of avoiding development of anaerobic spores (Applicant' s Spec. q[10; L'Air Liquide p. 23512). The applicant is further referred to the rejections and response to arguments provided in the office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JYOTI CHAWLA whose telephone number is (571)272-8212. The examiner can normally be reached on 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D Lawrence Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/JYOTI CHAWLA/
Primary Examiner
Art Unit 1781